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Part 36: Waste

Document 36.2 Managing Office and Shop Supplies for Disposal

Recommended for approval by the ES&H Working Group

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New document or new requirements

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36.2

Managing Office and Shop Supplies for Disposal*

Contents

* **Editorial revision**

Appendices

36.2

Managing Office and Shop Supplies for Disposal

1.0 Introduction

All employees, subcontractors, and visitors at Lawrence Livermore National Laboratory (LLNL) are required to comply with federal and state laws and regulations, local ordinances, and LLNL policies and procedures governing the management and disposal of office and shop supplies meeting the definition of hazardous waste. This document helps you meet all such requirements and acquaints you with:

- The definition of hazardous waste.
- Disposal requirements for hazardous waste.
- Responsibilities of employees for the disposal of office and shop supplies that may be considered hazardous waste.
- Identification of products disposed of as hazardous waste and procedures for handling them.
- Ways to avoid generating hazardous waste.

You can obtain answers to questions not explicitly addressed in this guidelines document from your Environmental, Safety, and Health (ES&H) Team environmental analyst or the Radioactive and Waste Management (RHWM) technician assigned to your program or department. The Environmental Protection Department's Environmental Operations Group (EOG) assigns an environmental analyst to each ES&H Team to provide environmental compliance guidance and assistance to programs that generate hazardous, radioactive, and mixed wastes. The RHWM technician provides assistance in preparation, storage, and removal of wastes from the workplace. See Document 36.1, "Waste Management Requirements," in the *ES&H Manual* for a full discussion of waste requirements.

This guidelines document will be updated, as necessary, to include information about new products or changes to current products.

2.0 Hazardous Waste

A material is subject to regulation as a hazardous waste if it meets the definition of both "waste" and "hazardous." A waste is any substance that has been discarded, has served its intended purpose, or is an unusable manufacturing byproduct. Examples of waste include office trash, products that have exceeded their shelf life and are no longer useable, and spent paints, adhesives, and cleaning solvents. Waste is deemed to be

hazardous if it is specifically cited in a hazardous waste list maintained by the U.S. Environmental Protection Agency (EPA) or the State of California's Department of Toxic Substances Control (DTSC), or if it exhibits any of the following characteristics:

- Ignitability
- Corrositivity
- Reactivity
- Toxicity

Appendices B through F contain tables of hazardous wastes that are commonly generated at LLNL. Refer to these tables to help determine if you have generated a hazardous waste. For assistance in characterizing waste, contact the ES&H Team environmental analyst assigned to your ES&H Team or the RHWM technician assigned to support your area. These individuals can help you determine if the waste is listed or meets any of the characteristics of a hazardous waste. If a waste is not included in Appendices B through F of this document, and is not listed by the EPA or the State of California, and does not exhibit any of the four hazardous characteristics, then it should be managed as nonhazardous waste.

2.1 Hazardous Waste Storage and Disposal

A Satellite Accumulation Area (SAA) is an area at LLNL where small quantities of hazardous wastes are temporarily accumulated at the point of generation and where the area is under direct control of the individual generating the waste. Wastes accumulated at the SAA are subject to accumulation time and quantity limits.

Waste Accumulation Areas (WAAs) at LLNL are used to temporarily store or accumulate hazardous waste collected from the SAAs before transport to a Radioactive and Hazardous Waste Management (RHWM) Division facility. The RHWM Division of LLNL's Environmental Protection Department is responsible for picking up properly prepared hazardous waste for treatment, storage, or offsite disposal and for managing all LLNL-generated hazardous waste after it leaves the WAAs.

Contact your environmental analyst for regulatory guidance on accumulation time limits and quantity limits of wastes in SAAs and WAAs. For more detailed guidance on accumulation and quantity limits of wastes in SAAs and WAAs, refer to Document 36.3, "Management of Satellite and Waste Accumulation Areas," in the *ES&H Manual*, or contact your ES&H Team environmental analyst.

Hazardous waste shall be packaged in the proper container. Your RHWM technician can advise you about the type and size of container to use, what wastes can be placed in a container, what wastes need to be segregated from each other, and what packaging

materials should be used. More information on container selection can be found in Appendix A of Document 36.3 in the *ES&H Manual*. All hazardous waste shall be managed in accordance with Documents 36.1 and 36.3 in the ES&H Manual, the requirements of the training course EP0006, "Hazardous Waste Generation and Certification" and the LLNL "Waste Acceptance Criteria" (UCRL-MA-115877, August 1997, Rev. 1).

2.2 When Is a Container Empty?

Empty containers that previously held a hazardous material are subject to California's contaminated container regulations. These regulations specify conditions under which the waste generator can dispose of most empty containers with capacities of 5 gallons or less as nonhazardous waste. To dispose of such containers, follow the management practices provided in Appendix A.

3.0 Responsibilities Associated with the Waste Management Process

Regulations dictate that the generator is responsible for proper management of hazardous wastes. The responsibilities of the waste generator are detailed in Documents 36.1 and 36.3 in the *ES&H Manual*. The ES&H environmental analyst is available to support the waste generator with identifying hazardous waste constituents, implementing environmental regulations and providing guidance on packaging and handling of waste. The RHWM field technician can assist the generator with packaging, labeling, and preparing the waste for transport. More information on the responsibilities of both the environmental analyst and RHWM field technician can also be found in Document 36.3 in the *ES&H Manual*.

4.0 Products Classified as Hazardous Waste upon Disposal

Three categories of commonly used office and shop supplies at LLNL may be classified as hazardous waste upon disposal. They are:

- General supplies
- Copier supplies
- Aerosol cans

Such supplies are described in more detail below. Before disposing of office or shop supplies, the generator shall first determine if they contain hazardous constituents. If this information is not known, the generator shall obtain a Material Safety Data Sheet (MSDS) for the individual product.

4.1 What Is a Material Safety Data Sheet?

Each MSDS lists the federally hazardous components of, and provides health and safety information related to, a specific product. However, because MSDSs are generally prepared for nationwide distribution, they may not list constituents that are considered hazardous only in California.

You can obtain the MSDS for a product from:

- The ChemTrack Hotline, extension 4-4404, or ChemTrack Web page at

  http://ChemTrack.llnl.gov:1650/livehtml/MSDS/MSDS1.html

- The product manufacturer

After obtaining an appropriate MSDS, contact your ES&H Team environmental analyst for assistance in determining the proper management and disposal practice for the product.

4.2 General Supplies

Appendix B lists some potentially hazardous general stock items ordered by LLNL's technical release representatives (TRRs) or the Procurement and Materiel Department. These products include adhesives, some types of batteries, cleaning solutions, rubber cement, and correction fluid to name a few. In addition, general non-stock items (i.e., resins, Alumicut, gasoline, rechargeable batteries, or ethanol) may also contain hazardous constituents or exhibit hazardous characteristics. Appendix C lists general nonstock items that contain hazardous substances and that are frequently purchased directly from the manufacturer.

MSDSs for both stock and non-stock items already available through a TRR or the Procurement and Materiel Department should be available through the Chemtrak Group. When ordering general supplies directly from a manufacturer, you should request an MSDS as part of the order. Your ES&H Team environmental analyst can assist with determining whether a product contains a hazardous material that needs to be handled as a hazardous waste upon disposal or when declared unusable.

4.3 Copier Supplies

Most black powder toners contain ingredients, such as styrene/acrylate polymer, acrylic resin, carbon black, and polyolefin that generally do not exhibit a hazardous waste characteristic pursuant to 22 CCR §§ 66261.1–66261.126 and appendices, Identification and Listing of Hazardous Waste. However, some toners (especially toner from color copiers), may contain heavy metals, such as the metals listed in 22 CCR §§ 66261.1–66261.126 and appendices, Identification and Listing of Hazardous Waste, or

they may exhibit another hazardous waste characteristic. As a best management practice, always seal such dry wastes in a plastic bag, and avoid inhaling toner powder. Liquid toners and other copier supplies that have a flash point below 140°F (60°C) (refer to the product's MSDS) need to be treated as hazardous materials and disposed of as hazardous waste. Appendix D lists common copier and printer supplies that have a flash point below 140°F (60°C) and that shall be disposed of as hazardous waste. Questions or concerns about specific supplies not listed in Appendix D should be referred to your ES&H Team environmental analyst.

4.3.1 Minimizing Copier Waste

The use of liquid copier and laser printer supplies that are treated as hazardous waste can be minimized by leasing or purchasing equipment that either uses nonhazardous products or uses products that can be refurbished and recycled.

4.3.2 Recycling Toner Cartridges

The Donation, Utilization, and Sales (DUS) Group within the Property Management Division coordinates the LLNL program for the disposition of government property through reutilization, donation, and sales. Through the DUS, you can recycle reconditioned toner cartridges for most printers used at LLNL; however, fax or copy machine cartridges are not accepted at present. Printer toner cartridges for recycling can be dropped off south of Building 616 at DUS. Printer toner cartridges can also be placed in Salvage Only bins provided by DUS if your facility is so equipped.

Reconditioned toner cartridges can be ordered through TRRs or the Procurement and Materiel Department Customer Support Center at extension 3-3488. Reconditioned toner cartridges used in Apple, Canon, Hewlett-Packard, and most other printers used at LLNL are less expensive than new cartridges (approximately half the price). For more information on recycling toner cartridges or acquiring reconditioned toner cartridges, call the Earth Hotline, number listed on the ES&H Contact Page.

4.3.3 Recycling Classified Toner Cartridges

You can recycle classified toner cartridges through DUS using the same sanitation process that is required for their disposal as solid waste. Contact Safeguards and Security for additional details.

4.4 Aerosols

Aerosol containers that no longer deliver sufficient product for normal use can still retain a small amount of product or propellant within the container. First, review the product's MSDS to determine if the aerosol product itself contains any regulated

materials. Then, review the product's propellant to determine if it is defined as hazardous by federal or state regulations.

4.4.1 Aerosol Containers that Are Considered Hazardous Upon Disposal

Upon disposal, aerosol cans that contain either a hazardous product residue or a propellant regulated by the DTSC shall be managed as hazardous waste and disposed of through the RHWM Division. Appendix E lists some of the commonly used aerosol products that shall be disposed of as hazardous waste. Hazardous aerosol propellants include chlorofluorocarbons (CFCs), methane, propane, or other hydrocarbons that are defined as hazardous by federal and state regulations.

The aerosol container shall be characterized according to the hazardous waste characteristics inherent in the product or propellant. If the product or propellant exhibits the hazardous waste characteristics of toxicity, corrosivity, ignitability, or reactivity, then the aerosol container shall be characterized accordingly. (An aerosol container is not characterized as "reactive" solely due to the pressurized state of the container from the propellant.)

4.4.2 Aerosol Containers That Can Be Managed as Nonhazardous Waste

An aerosol container that meets the following criteria can be managed as nonhazardous waste:

- The container does not contain an extremely hazardous material, and it does not contain an acutely hazardous material.
- The spray mechanism is not defective, and the contents and propellant were discharged to the maximum extent practical under normal use.

Supplies that use nonhazardous and ozone-safe propellants are good alternatives to the supplies listed in Appendix E. They include:

- Aerosols that use a gas propellant, such as carbon dioxide, which is both nonhazardous and nonreactive with the ozone layer.
- Products that are packaged in nonaerosol (pump spray) containers.
- Products with an application system that uses compressed air and reusable containers.

4.4.3 Aerosol Paint Products Containing Volatile Organic Compounds

The Bay Area Air Quality Management District (BAAQMD) limits the content of volatile organic compounds (VOCs) in aerosol paint containers (e.g., spray paint cans). The LLNL Livermore Site is within the BAAQMD boundaries and is required to comply with

the limits defined in BAAQMD Regulations 1–12, Regulations and Permitting Requirements. BAAQMD regulations specify that only compliant paint products can be sold within the District. The following website contains a listing of various aerosol products and the maximum VOC content for these products:

http://www.baaqmd.gov/regs/rg0849.pdf

Users shall check aerosol cans for VOC content and use only those that are compliant. Products found with a higher VOC should not be used and shall be managed through RHWM. Contact your ES&H Team environmental analyst for additional guidance on specific products.

Site 300 is located in the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD), which has not yet restricted VOC content. However, for consistency and as a best management practice, only use compliant products at Site 300. Moreover, TRRs and the Procurement and Materiel Department only order those products that comply with BAAQMD restrictions.

4.5 ChemTrack Procedures

LLNL uses a computerized chemical inventory system to meet regulatory reporting requirements and to track hazardous materials. This ChemTrack system is administered through the ChemTrack Group within the Environmental Protection Department and uses barcodes and scanners to monitor locations and amounts of chemicals. Typical chemicals that are tracked include office and custodial supplies in greater than 1-gallon volumes, paints, adhesives, industrial cleaners, and oils. Some of the items that are not tracked are typical office and custodial chemicals that are under a gallon in volume, radioactive material, and some construction supplies (i.e., sand or concrete). When disposing of containers that have a ChemTrack barcode affixed, the generator (chemical custodian) needs to remove the bottom part of the barcode and place it on a ChemTrack form which will be submitted to the ChemTrack Group who will update the computerized tracking system.

For additional guidance or assistance in the use of the ChemTrack system, refer to the Document 14.1, "Chemicals" and Document 21.1 "Acquisition, Receipt, Transportation, and Tracking of Hazardous Material" in the *ES&H Manual*, the ChemTrack website, or call the ChemTrack hotline on extension 4-4404. The ChemTrack website (which includes a copy of the ChemTrack form) can be found at:

http://ChemTrack.llnl.gov:1650/livehtml/Frame.html

5.0 Minimizing Hazardous Waste Generation

LLNL personnel can minimize or eliminate the use of supplies that generate hazardous waste by selecting nonhazardous substitutes, whenever possible. In general, avoid generating surplus supplies by procuring only the needed quantity of items from TRRs and the Procurement and Materiel Department. Most surplus supplies cannot be returned to vendors or the Procurement and Materiel Department. If surplus supplies contain hazardous constituents, they can be made available for use by others at LLNL or disposed of as hazardous waste.

5.1 Donation, Utilization, and Sales

DUS administers the disposition of government property through reutilization, donation, and sales. DUS accepts property-numbered items (e.g., capital and attractive items) and nonproperty-numbered items (e.g., office supplies, furniture, equipment, hardware, and scrap) that are nonhazardous. To send property to DUS, place the property in boxes or on a pallet, as appropriate, and complete an Excess Equipment Card. For more information, contact your Property Center Representative, or call either DUS (extension 4-4103) or the Property Management hotline (extension 4-5238).

5.2 Chemical Exchange Warehouse

The RHWM Division operates the Chemical Exchange Warehouse (CHEW), which stores usable surplus chemicals for redistribution and use at LLNL. Contact CHEW at extension 4-5055 for evaluation and pickup of surplus chemicals for possible reuse. CHEW is also an excellent source of free chemical supplies, and it provides a 1-day delivery service. Using CHEW can avoid the costly procurement process and associated time delays. Hazardous chemicals should be procured in quantities limited to those required for near-term operations.

Appendix F lists office and shop supplies that are not considered hazardous upon disposal. Such items are good alternatives to those products that are managed as hazardous waste upon disposal or that result in the release of CFCs to the atmosphere.

6.0 Management of Office and Shop Supplies as Hazardous Waste

Surplus or used office and shop supplies that contain hazardous constituents or removable residues, and that have no potential beneficial use, shall be managed as hazardous waste. Containers that previously held extremely or acutely hazardous materials shall also be managed as hazardous waste unless they are triple rinsed, as described in Appendix A.

The Environmental Protection Department offers training courses to prepare generators for handling hazardous wastes in compliance with environmental regulations. The courses are required under federal and state regulations, and line management shall ensure that all required training is completed and maintained. RHWM will not accept waste from a generator whose training is not current.

The basic hazardous waste generation course is available to waste generators several times a month. The course numbers and titles are:

- EP0006—Hazardous Waste Generation and Certification (one time).
- EP0006-R—Hazardous Waste Generation and Certification Review (annual).

To learn more about these courses, refer to the LLNL On-line Course Catalog at

https://www-ais.llnl.gov/llnl_only/docs/hr/catalog/

Only EP0006-trained persons who are current in their training are authorized to sign a Hazardous Waste Disposal Requisition (WDR), which is the paperwork that describes and tracks the waste.

Document 36.1 in the *ES&H Manual* contains more specific training requirements for both a "waste generator" and "limited waste generator."

7.0 Work Standards

22 CCR §§ 66261.1–66261.126 and appendices, Identification and Listing of Hazardous Waste (hazard category #39d)

22 CCR §§ 66262.10 –66262.89, Standards Applicable to Generators of Hazardous Waste (hazard category #39d)

CA Health & Safety Code § 25100 et seq., Hazardous Waste Control

CA Health & Safety Code §§ 25110–25124, Definitions

CA Health & Safety Code §§ 25216–25216.3, Management of Small Household Batteries (e.g. consumer batteries)

CA Health & Safety Code §§ 25250–25250.28, Management of Used Oil

CA Health & Safety Code §§ 25140–25145.4, Listings

CA Health & Safety Code §§ 25150–25158, Standards

CA Health & Safety Code §§ 25160–25166.5, Transportation

CA Health & Safety Code §§ 25200–25205, Permitting of Facilities

Appendix A

Management and Disposal of Empty Containers

A.1 Introduction

Any container that previously held hazardous material or waste shall be managed in accordance with hazardous waste requirements upon disposal, unless it meets an exemption in the contaminated container regulations adopted by the DTSC. Containers that meet the "empty" criteria of the contaminated container regulations may be managed in a less restrictive manner than other hazardous waste. The contaminated container regulations allow *empty containers with capacity of 5 gallons or less* to be disposed of in the municipal trash and empty containers of any size to be reclaimed as scrap or reconditioned for reuse under special handling conditions. The contaminated container regulations also impose identical requirements for inner liners of containers.

A.2 Definition of Empty Container

A container is considered to be empty if it meets any one of the following criteria:

- For containers that formerly held pourable hazardous material or waste, no residual material or waste can be poured or drained from the container when the container is held in any orientation (e.g., tilted or inverted).
- For containers that formerly held nonpourable hazardous material or waste, no material or waste remaining in or on the container can be feasibly removed by physical methods commonly employed to remove materials from the containers. A thin, uniform layer of dried material or powder is considered acceptable in the container; and physical methods (scraping or chipping, but excluding rinsing) are allowed to achieve the empty criteria without a treatment permit, conditional exemption, permit, or permit waiver. Any excess material removed from a container shall be used for its intended purpose or shall be managed as hazardous waste. The physical method of removal shall meet all applicable air pollution control laws.
- For containers that held materials or waste considered to be extremely or acutely hazardous, the containers are required to be triple rinsed with a solvent capable of removing the material before the container is considered empty. Triple rinsing currently requires a treatment permit, conditional exemption, permit, or permit waiver from the DTSC when used to meet the empty criteria.

- For aerosol containers, the container is emptied of contents and propellant to the maximum extent practical under normal use. This criterion does not apply to containers with a defective spray mechanism.
- For gas cylinder containers, the pressure in the container approaches atmospheric pressure.

A.3 Container Types That Shall Be Managed as Hazardous Waste

The following types of contaminated containers are excluded from the contaminated container regulations and shall be managed as hazardous waste:

- Containers constructed of absorptive material (e.g., wood, paper, or cardboard) that have been in direct contact with, and have absorbed, hazardous material or waste.
- Used oil filters (if not recycled).
- Polychlorinated biphenyl (PCB)-contaminated equipment.
- Containers that are only located on vehicles (e.g., roll-off bins, Baker tanks, or tank trailers).

A.4 Acceptable Methods for Removing Excess Material in Containers

Various methods may be used to remove excess material from a container to ensure that a contaminated container meets the empty criteria. The physical methods (e.g., pouring, aspirating, scraping, or chipping) that are commonly used to remove product from a container may also be used to remove excess material for the purpose of meeting the empty criteria without obtaining a DTSC treatment permit, conditional exemption, permit, or permit waiver. However, any excess material removed from a container shall be used for its intended purpose or shall be managed as hazardous waste. In addition, compliance with applicable air pollution control laws shall be ensured for the method of material removal.

Methods such as rinsing and triple rinsing require a treatment permit, conditional exemption, permit, or permit waiver from the DTSC when used to meet the empty criteria. DTSC processes are lengthy and should be handled through the ES&H Team environmental analyst.

Most contaminated containers of 110 gallons or less that held hazardous material or waste, and that are not constructed of an absorptive material, can be rinsed for the purposes of meeting the empty criteria when a conditional exemption is obtained from the DTSC. Your ES&H Team environmental analyst can assist you in obtaining this permit. The rinsing of containers greater than 110 gallons requires a treatment permit.

Contaminated containers of 110 gallons or less that are not constructed of an absorptive material, that meet the empty criteria, and that have been rinsed, can be further treated by a physical process (e.g., shredding or crushing) to better manage the container when a conditional exemption permit is obtained from the DTSC.

A container of 5 gallons or less that meets the empty criteria may be rinsed without a treatment permit, conditional exemption, permit, or permit waiver to better manage the container. Although rinsing prior to the physical process is not required, if the container is rinsed, the rinsate shall be containerized, properly managed, and characterized for hazardous constituents.

A.5 Management Practices for Empty Containers

To qualify for the contaminated container exemption, a container is required to meet the empty criteria and to be managed in accordance with the following practices:

- Containers of 5 gallons or less in capacity may be disposed of at a solid waste facility (such as the municipal trash) if the container is properly packaged and transported.
- Containers of any size may be reclaimed for scrap value onsite or offsite if the container is properly packaged and transported according to U.S. Department of Transportation (DOT) regulations.
    - If a waste generator wishes to reclaim containers greater than 5 gallons in capacity, the containers shall be marked with the date they were emptied and shall be reclaimed within 1 year.
    - If containers with a capacity greater than 5 gallons are sent to an offsite facility, the waste generator (LLNL) shall maintain records for 3 years (at a minimum) with the name, street address, mailing address, and telephone number of the owner and operator of the offsite facility.
- Containers of any size may be reconditioned or remanufactured (pursuant to prescribed methods) for onsite or offsite reuse if the container is properly packaged and transported in accordance with DOT requirements. In addition,
    - Containers greater than 5 gallons in capacity shall be marked with the date they were emptied.
    - Containers shall be reconditioned or remanufactured within 1 year.

Appendix B

General Stock Items that Contain Hazardous Substances

This appendix is a partial list of potentially hazardous, general stock items used at LLNL. Contact your ES&H Team environmental analyst for an evaluation of other items.

Product (brand name)	Stock number	Hazardous constituents	Dispose of as:
Adhesive (Double Bubble)	8040–56362	Epoxy resin	Municipal garbage if hardened during use; hazardous waste if not hardened
Adhesive (Dux Seal)	8030–28165	Chlorinated paraffin (suspected animal carcinogen)	Hazardous waste
Adhesive (Permabond No. 910), 20-g bottle	8040–28191	Ethyl cyanoacrylate, methyl cyanoacrylate	Hazardous waste
Adhesive, removable TL 242 (Lock-n-Seal)	8040-66431	Polyglycol dimethacrylate, cumene hydroperoxide, methanol	Hazardous waste
Batteries (lead acid)	Group 6140	Lead, sulfuric acid	Recyclable waste to Building 404, Battery Shop
Batteries (rechargeable for calculators and pagers)	Group 6135	Nickel, cadmium	Hazardous waste
Cement, household (Duco), 1.75-oz size	8040–28208	Acetone, butyl acetate, denatured ethyl alcohol	Municipal waste if hardened during use; hazardous waste if not hardened
Cement, rubber, for paperwork, 4-oz size	8040–28233	Solvent naphtha	Hazardous waste
Cleaning solution for whiteboard, porcelain, and dry-erase surfaces (Sanford's Expo)	7930–69876	Isopropanol-ethyl-3-ethoxyproprionate	Hazardous waste
Correction fluid, solvent base (White-Out No. 109), 0.5-oz bottle	7510–57748	1,1,1-trichloroethane	Municipal garbage if dry[a]

[a] Guidance was verbally verified with the DTSC on 5/28/93 by the Environmental Protection Department. A record of communication of the guidance is on file with the Permits and the Regulatory Affairs Group in the Operations and Regulatory Affairs Division. The water-based correction fluid can be disposed of as municipal garbage.

Appendix C

General Nonstock Items that Contain Hazardous Substances

This appendix contains a partial list of potentially hazardous, general nonstock items used at LLNL. Contact your ES&H Team environmental analyst for an evaluation of other items.

Product (brand name)	Hazardous constituents	Dispose of as:
Alarm sensor adhesive (Loctite Corp., Part No. 12335)	Cumene hydroperoxide, polyurethane methacrylate acrylic acid, poly(ethylene), resin, silicon dioxide	Hazardous waste
Alarm sensor primer (Loctite Corp., Part No. 12335)	Trichloroethylene, isopropyl alcohol	Hazardous waste
Alkyd resin solution (Glyptal, Inc.)	Xylene	Hazardous waste
Alumicut, Part No. 9150-65145	Distillate (solvents)	Hazardous waste
Aluminum putty, Part No. 8030-28174	A diglycidyl, ether resin	Municipal garbage if hardened during use; hazardous waste if not hardened
Automotive gasoline (Diablo petroleum)	Gasoline	Hazardous waste
Batteries (rechargeable, pure lead and lead-cadmium for emergency lights) Group 6135	Lead acid	Hazardous waste
Cement, rubber, thinner, 1-pt (8040–28234) and 1-gal (8040–51778) sizes	Solvent naphtha	Hazardous waste
Correction fluid, thinner, (White-Out No. 163), 0.6-oz bottle Part No. 7510–42214	1,1,1-trichloroethane	Municipal garbage if dry[a]
Epoxy resin, Part No. 8040–52384	Epichlorohydrin	Municipal waste if hardened during use; hazardous waste if not hardened
Dow Corning silicone catalyst (Dow Corning Corp.)	Dibutyltindilaurate	Municipal garbage if hardened during use; hazardous waste if not hardened
Electrolyte solution (Belta 7 Corp.)	Potassium hydroxide solution (1 normal)	Hazardous waste
Ethanol, ethyl alcohol (Polymer Industries)	Ethanol	Hazardous waste

Product (brand name)	Hazardous constituents	Dispose of as:
"Freon" TF solvent (G. C. Freon)	Chlorofluorocarbons (CFCs)	Hazardous waste
Handy oil 15, lubricating base oil (Chevron)	Refined solvents	Hazardous waste
Montroy supply resin flux remover (Ashland Chemical Co.)	Aromatic hydrocarbon, chlorinated hydrocarbon	Hazardous waste
Nitrile rubber/resin in solvent (W. J. Ruscoe Co.)	Methyl ethyl ketone	Hazardous waste
Penetrating lubricant (Perform, Madison Bionics)	Methylene chloride, xylene	Hazardous waste
Platen cleaner, rubber-roller rejuvenator for typewriter and printer platens (NBI), Kit Part No. 7930–69559	Xylol, ethanol, methanol, ethyl acetate, methyl isobutyl ketone	Municipal garbage if dry[a]
Rapid Tap (Relton Corp.)	Methyl chloroform	Hazardous waste
Reducing thinner (Glyptal, Inc.)	Xylene	Hazardous waste
Spray enamels[b] Group 8010	Mineral spirits, xylene, methylene chloride, hexane, toluene, acetone, isobutanol	Hazardous waste
Storage Tek hub and transport cleaner fluid (Stantex Chemical, Inc.)	Trichlorotrifluoroethane, isopropyl alcohol, nitromethane	Hazardous waste
Tapping compound, Part No. 9150–33596 (Cim TAP)	Polychlorinated biphenyls (PCBs)	Hazardous waste
Trimethylhexamethylene diamine (Nuddex, Inc.)	2,2,4- trimethylhexamethylene-diamine	Hazardous waste
Wood dough, Part No. 8030–27960	Methyl ethyl ketone, acetone, textile spirits, isopropanol	Municipal waste if hardened during use; hazardous waste if not hardened
Yellow 77, all "31" series catalog numbers (Ideal Industries, Inc.)	Naphthenic B (mineral oil)	Hazardous waste

[a] Guidance was verbally verified with the DTSC on 5/28/93 by the Environmental Protection Department. A record of communication of the guidance is on file with the Permits and the Regulatory Affairs Group in Operations and Regulatory Affairs Division. Water-based correction fluid can be disposed of as municipal waste.

[b] Verify that the spray enamels are not listed in Appendix F, Noncompliant Aerosol Paint Products.

Appendix D

Copier and Printer Products with a Flash Point Below 140°F (60°C) that Are Hazardous Waste

This appendix contains a partial list of potentially ignitable copier and printer products used at LLNL. Contact your ES&H Team environmental analyst for an evaluation of other items.

Manufacturer/Product	Flash point (°F)
Canon	
Corona wire cleaner	54
Savin	
Electrostatic dispersant	102–107
Ricopy PPC toner	123
3M	
Lens cleaner	102
Xerox	
ECP toner premix	102–107
ECP toner concentrate	102–107
Type H, V80 toner concentrate	102–107
Type H, V80 toner premix	102–107
CE premix	102–107
CE premix, Type H	102–107
ECP premix	102–107
ECP concentrate	102–107
Lens and mirror cleaner	81
Film remover	54

Appendix E

Aerosol Items that Shall Be Disposed of as Hazardous Waste

This appendix contains a partial list of aerosol products that contain hazardous substances used at LLNL. Contact your ES&H Team environmental analyst for an evaluation of other items.

Product (brand name)	Stock number	Hazardous constituents	Propellant
Anti-static spray	Group 6750	Ethanol, methanol, cocoammonium nitrate, methylbis (2-hydroxyethyl)	Liquefied petroleum gas
Cleaner, glass (Gleem), 15-oz can	7930–48775	2-butoxy ethanol, ethyl alcohol, methyl alcohol	Hydrocarbon
Cleaner, solvent, all-purpose (Swish), 15-oz can	6850–46741	Sodium metasilicate, ethylene glycol, monobutyl ether	Isobutane
Corrosion inhibitor	Group 6850	Ammonium bifluoride, hydrogen fluoride, phosphoric acid	Carbon dioxide
Industrial penetrant	Group 9150	1,1,1-trichloroethane	Liquefied petroleum gas

Appendix F

Products Not Considered Hazardous upon Disposal

This appendix contains a partial list of alternative supplies that are not considered to be hazardous upon disposal.

Product (brand name)	Stock number
Cleaner, all-purpose (Stynamite, Igepal), 1 qt	7930–30260
Cleaner, compressed-gas, spray can and refill (Micro-Duster)[b,c]	7930–63452; 7930–63453
Cleaner, glass (Windex with Ammonia D)[c]	7930–50477
Cleaning solution for ultrasonic cleaner	7930–50884
Coolant for metal turning and shaping machines (Trim-Sol)	6850-66814
Correction fluid, water base, for use on originals and copies (Eberhard Faber No. 951), 0.5-oz bottle (Wite-Out)[d]	7510–63436
Correction fluid, water base, for use on copies only (Liquid Paper No. 710–01), 1-oz bottle (Wite-Out)[d,e]	7510–41625
Detergent, liquid (Oakite Liquidet)[e]	7930-30253
Dishwashing compound, for washing by hand, low-alkalinity, liquid	7930–66441
Disinfectant, germicidal and fungicidal, pine oil (Pyntox), 1 qt	6840–13789
Used film for Polaroid cameras	Group 6750[a]
Flashbar for Polaroid SX-70 camera	6750–63181
Flashcubes, standard and high power, for Polaroid cameras	6750–60857; 6750–61746
Machine-tool cutting fluid (Trim-Sol)	6850-70701
Metal polish (Liberty), 8 oz	7930–30294
Ribbons, typewriter	Group 7510[a]

[a] Nonstock items.

[b] Texwipe Company, which manufactures Micro-Duster, has redesigned the container so that it can be completely emptied of all contents by following the manufacturer's instructions. The empty container can then be disposed of as municipal garbage. The stock number for this item has not changed.

[c] These are ozone-safe alternatives.

[d] The new formulation of Wite-Out is water-based and can be disposed of as municipal garbage.

[e] Your ES&H Team environmental analyst shall evaluate all Oakite products before disposal. Oakite Liquidet at concentrations ≤50% meets LLNL sanitary sewer discharge limits and agreed-upon Livermore Water Reclamation Plant limits.